A Voice Among Millions: A Scientist's Need for Rhetoric

Twelve jurors sit in a room. They talk, they argue, they yell, all in the hope of having a dozen votes flip over the same verdict. Some become aggressive, some resort to insults, and some go almost unnoticed as their quiet voices can never reach over the boasts of others. Now imagine that these twelve jurors are instead a thousand scientists, a hundred politicians, and a billion citizens all trying to reach one unanimous decision. Such is the global issue of how to deal with climate change. Within the past twenty years, global warming has become a heated topic among the public as they argue over its existence, its causes, its solutions, and its long term effects. Politicians make impressive promises to save the world, scientists boast compelling claims about the future, and the general population is forced to take sides. However, this choosing of sides is often misguided. Many believe scientists are restricted to facts and figures when presenting their opinion and quickly accept an esteemed engineer's argument as truth. But a bulleted list of test results would go unheard in a debate with so many voices that are all fighting for attention. Just as in the jury room, those that lead the debate and those that end up voiceless are separated by the concept of rhetoric. In the heated controversy, scientists and politicians cannot simply outline their concerns for climate change. They are driven to make their claims with passionate conviction accompanied by insults that attack their opponent's argument. Their ability to control the reader through their command of language plays a deciding factor in whether or not their voice will be heard and, more importantly, whether it will be impactful. Anders Levermann faced the same challenge in writing his article *Why Climate Engineering Won't Work*. To make sure people heed his message, he continually belittles the counterargument in an unsuccessful attempt to make the decision of accepting his opinion easy. He balances this aggressive approach by accommodating an audience that has

little knowledge in the field of engineering and thus creates a persona that is both friendly and knowledgeable. The rhetorical strategies give his paper a voice, but the tactics quickly reveal how rhetoric does not always make the argument more believable.

In 2006, Paul Crutzen proposed the idea of climate engineering, a solution to climate change that involved scientists controlling cloud cover. Levermann's article focuses on disproving this idea that has caught the attention and support of numerous scientists and politicians. Through specific word choice, Levermann portrays that the flaws of climate engineering are so blatant one would be naive to accept the idea. This spawns a false assurance in accepting Levermann's opinion as fact. Throughout the article, there is overwhelming use of the words "fundamental" and "basic" to describe the fallacies in climate engineering. Levermann is writing to an audience that has little knowledge in the field of engineering. He supposedly thinks that if he presents this complicated debate that has been raging for years as having an "obvious" answer, the reader will be comfortable forming an opinion on this "simple" subject. However, the strategy has the exact opposite effect. Levermann is clearly oversimplifying an argument that has many facets and complications. If the defects of climate engineering are so evident, why have so many engineers taken to this solution? Levermann solely confronts the "physics" of climate engineering, but what about the chemistry, the environmental effects, or even the ethics? The author continues to hurt his argument when he concludes every claim with "It won't work" (Leverman). The audience of the article has already been exposed to numerous opinions on the solution from other scientists. Therefore, when every point of Levermann's paper leads to the same short and sweet idea, the audience is prompted to believe that there has to be more to the argument that Levermann is not addressing. This causes the reader to question the legitimacy of the author's claims. Levermann attempts to simplify the fallacies of Crutzen's proposed idea with the hope of making

his reader believe the choice is clear. Unfortunately, the strategy hurts his credibility as an author that one can trust to present the whole story.

Levermann's argument relies heavily on factual evidence, which both establishes his authority on the subject but also makes the audience suppose he is overcompensating. In the body of the article, he guides his readers step by step through the science behind his claims. He begins by using extreme detail in outlining how the sun's ray affect the atmosphere and how Crutzen's manipulation of clouds only reflects the sun's rays but does not clean the air. He continues his next paragraphs by explaining the atmosphere's complicated patterns and the effect they have on controlling the weather. This logical approach is used to establish expertise on the subject. The audience has little knowledge of their own on the scientific data, and they have no other choice but to believe the man who seems to hold all the evidence. In this way, Levermann successfully elevates himself as the expert. Even still, his advanced talk does not add up. Anders Levermann is a professor of physics as well as a climate scientist, both subjects which are heavily discussed in the article. He is esteemed among the Potsdam University community and among his 866 followers on Twitter. In his article, Levermann presents his claims in both scientific terms and everyday language. So why does he feel the need to include sophisticated phrases such as "polar amplification" and "climatic phenomena" (Levermann) when he knows his audience will not comprehend this? Why does he not simply skip to the simple explanation? Levermann already has a very established authority, which leaves his readers to question the motivation behind his overreaching attempts to extol himself with these fancy words. In addition, he fails to cite any other sources or scientists that would allow the reader to confirm his assertions. The author is trying to give the reader the impression that he has all the facts and all the expertise. Instead, the audience is left with a confusion as to why Levermann tries so hard to sound intelligent.

On the other hand, Levermann crafts a persona that helps him gain trust from the reader, effectively making his claims more persuasive. Right from the start of the article, Levermann works at building a connection with his readers--a strategy that creates empathy for the subject and assurance in the author. Levermann hooks the reader by beginning with the struggles California and Vanuatu have faced as a result of climate a change. This statement succeeds in putting the global issue on a personal level. Treating climate change as though it affects individuals rather than a population makes the audience believe that the author cares about the individual reader. To continue this bond, Levermann accommodates the needs of the reader by explaining the complicated science talk in more basic terms. When he writes “if this sounds too complicated” and “to put it differently” (Levermann), he breaks the common writing style of a scientific paper. Instead of using a formal approach, Levermann writes with a friendly tone that invites the reader to consider what he has to say. The audience is more inclined to trust the author if he does not come across as threatening in his argument. The tactic is effective, but if the readers aren’t careful, it may prove to be manipulative. Just because the author creates a potential facade that makes the reader feel comfortable doesn’t mean he/ she has the reader’s best interests in mind. If the audience does not recognize this strategy, they may be inclined to side with the *friendly* scientist instead of the *credible* scientist.

Whether Anders Levermann needed to manipulate his audience into siding with him or he just needed to make his voice heard, his rhetorical strategies negatively affect how the reader receives the author’s final thoughts. Levermann focuses his entire argument on fighting the popular idea of climate engineering; yet, he concludes his work with a single paragraph on his own solution to climate change. The assertion is introduced with an insult: “if we don’t want to screw up our climate, it is time to put the fruitless debates on climate-engineering techniques to rest” (Levermann). The slander has no specific target, leaving the reader to think it is

possibly them. Why has the author been so friendly throughout the article and now is suddenly threatening? Possibly Levermann thought that a passive-aggressive approach might get overlooked. Consider again the twelve jurors. Having the title “Foreman” does not necessarily mean that person will lead the debate; rather, those who are assertive and unafraid to offend others are the ones who seem to gain control. Unfortunately, the author takes a devastating turn in his rhetorical strategy when he believes he must attack his readers in his final claim. However, as in the case of the jury room, this technique causes some to concede and others to refuse the speaker’s thoughts.

While Levermann’s use of rhetoric captures the reader and makes them inclined to hear him out, the strategies simultaneously send mixed messages that leave the audience questioning his credibility. And yet, the argument that Anders Levermann is trying to make a dent in is so large that his voice is just one among millions. This author is not the only scientist trying to sway the public through emotional words and inflated personas. To shift through the thousands of news speeches and blogs to find non-manipulative arguments would be unrewarding and a waste of time. To carefully pick through every article for how the author uses rhetorical strategies to persuade readers would be tedious and impossible. So among these voices do we simply learn to trust no one? Not at all, but understanding how speakers, even those among the science community, use language to inflate and validate their argument is key to becoming an informed engineer.

References

Levermann, A. (2015, May 10). Why Climate Engineering Won't Work. Retrieved October 24, 2015, from http://www.huffingtonpost.com/anders-levermann/why-climate-engineering-wont-work_b_7239816.html